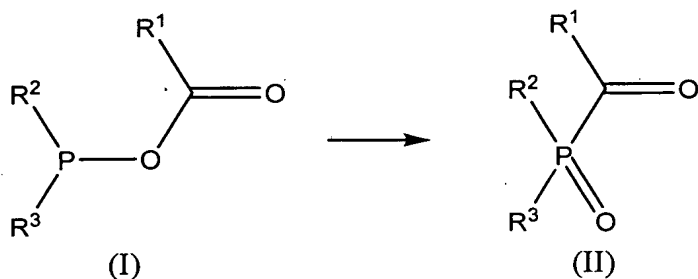


AMENDMENTS TO THE CLAIMS

Please cancel claims 1-11, and add new claims 12-47, as follows:

Claims 1-11 (Cancelled).

Claim 12 (New) A process for preparing an aromatic acylphosphine oxide (II), wherein said process comprises converting an aromatic carboxyphosphine (I) to said aromatic acylphosphine oxide (II) according to the following rearrangement reaction:



wherein R¹ is a C₆-C₁₂ aryl group, which is optionally substituted by at least one aryl, alkyl, aryloxy, alkyloxy, and/or heteroatom, and

wherein R² and R³ each independently represent a C₁-C₁₈ alkyl group, a C₂-C₁₈ alkyl group optionally interrupted by one or more oxygen atoms, sulfur atoms and/or substituted or unsubstituted imino groups, a C₂-C₁₈-alkenyl group, a C₆-C₁₂-aryl group, a C₅-C₁₂-cycloalkyl group, or a C₁-C₁₈-alkoxy group, which are optionally substituted by at least one aryl, alkyl, aryloxy, alkyloxy, heteroatom, metal, -O⁻cation⁺ and/or halogen.

Claim 13 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein R¹ is selected from the group consisting of phenyl, tolyl, xylyl, α-naphthyl, β-naphthyl, 2-chlorophenyl, 3-chlorophenyl, 4-chlorophenyl, 2,6-dichlorophenyl, 2,4-dichlorophenyl, 2,4,6-trichlorophenyl, 2-methylphenyl, 3-methylphenyl,

4-methylphenyl, 2,6-dimethylphenyl, 2,4-dimethylphenyl, 2,4,6-trimethylphenyl, 2-ethylphenyl, 3-ethylphenyl, 4-ethylphenyl, 2,6-diethylphenyl, 2,4-diethylphenyl, 2-isopropylphenyl, 3-isopropylphenyl, 4-isopropylphenyl, 2-tert-butylphenyl, 3-tert-butylphenyl, 4-tert-butylphenyl, 2-methoxyphenyl, 3-methoxyphenyl, 4-methoxyphenyl, 2,6-dimethoxyphenyl, 2,4-dimethoxyphenyl, 2,6-diethoxyphenyl, 2,4-diethoxyphenyl, methylnaphthyl, 2,6-dimethylphenyl, 2,4,6-trimethylphenyl, 2,6-dimethoxyphenyl, 2,6-dichlorophenyl, 4-bromophenyl, 2-nitrophenyl, 4-nitrophenyl, 2,4-dinitrophenyl, 2,6-dinitrophenyl, 4-dimethylaminophenyl, and 4-acetylphenyl.

Claim 14 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein R^2 and R^3 are each independently selected from the group consisting of 2,4,4-trimethylpentyl, benzyl, p-chlorobenzyl, 2,4-dichlorobenzyl, p-methoxybenzyl, methoxy, ethoxy, n-propyloxy, isopropyloxy, n-butyloxy, isobutyloxy, sec-butyloxy, tert-butyloxy, 6-hydroxy-1,4-dioxohexyl, 9-hydroxy-1,4,7-trioxononyl, 12-hydroxy-1,4,7,10-tetraoxododecyl, 6-methoxy-1,4-dioxohexyl, 9-methoxy-1,4,7-trioxononyl, 12-methoxy-1,4,7,10-tetraoxododecyl, 6-ethoxy-1,4-dioxohexyl, 9-ethoxy-1,4,7-trioxononyl, 12-ethoxy-1,4,7,10-tetraoxododecyl, 8-hydroxy-1,5-dioxooctyl, 12-hydroxy-1,5,9-trioxooctyl, 16-hydroxy-1,5,9,13-tetraoxohexadecyl, 10-hydroxy-1,6-dioxodecyl, 15-hydroxy-1,6,11-trioxopentadecyl, vinyl, 1-propenyl, allyl, methallyl, 1,1-dimethylallyl, 2-butenyl, 2-hexenyl, 2-phenylvinyl, 2-methoxyvinyl, 2-ethoxyvinyl, 2-chlorovinyl, phenyl, tolyl, xylyl, α -naphthyl, β -naphthyl, 4-diphenyl, 2-chlorophenyl, 3-chlorophenyl, 4-chlorophenyl, 2,4-dichlorophenyl, 2,6-dichlorophenyl, 2,4,6-trichlorophenyl, 2-methylphenyl, 3-methylphenyl, 4-methylphenyl, 2,4-dimethylphenyl, 2,6-dimethylphenyl, 2,4,6-trimethylphenyl, 2-ethylphenyl, 3-ethylphenyl, 4-ethylphenyl, 2,4-diethylphenyl, 2,6-diethylphenyl, 2-isopropylphenyl, 3-isopropylphenyl, 4-isopropylphenyl, 2-tert-butylphenyl,

3-tert-butylphenyl, 4-tert-butylphenyl, 2-methoxyphenyl, 3-methoxyphenyl, 4-methoxyphenyl, 2,4-dimethoxyphenyl, 2,6-dimethoxyphenyl, 2-ethoxyphenyl, 3-ethoxyphenyl, 4-ethoxyphenyl, methylnaphthyl, chloronaphthyl, ethoxynaphthyl, 2,6-dimethylphenyl, 2,4,6-trimethylphenyl, 2,4-dimethoxyphenyl, 2,6-dimethoxyphenyl, 2,4-dichlorophenyl, 2,6-dichlorophenyl, 2-nitrophenyl, 4-nitrophenyl, 2,4-dinitrophenyl, 2,6-dinitrophenyl, 4-dimethylaminophenyl, 4-acetylphenyl, 2,4,6-trimethylbenzoyl, 2,6-dimethoxybenzoyl, and 2,6-dichlorobenzoyl.

Claim 15 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said process is carried out in the absence of a catalyst.

Claim 16 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 15, wherein said process is carried out at a temperature above 100°C.

Claim 17 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 15, wherein said process is carried out at a temperature of from 100°C to 240°C.

Claim 18 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 15, wherein said process is carried out at a temperature of from 120°C to 240°C.

Claim 19 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 15, wherein said process is carried out at a temperature of from 140°C to 240°C.

Claim 20 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 15, wherein said process is carried out at a temperature of from 160°C to 240°C.

Claim 21 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said process is carried out in the presence of a catalyst.

Claim 22 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 21, wherein said process is carried out at a temperature above 80°C.

Claim 23 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 21, wherein said process is carried out at a temperature of from 80°C to 240°C.

Claim 24 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 21, wherein said process is carried out at a temperature of from 100°C to 240°C.

Claim 25 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 21, wherein said process is carried out at a temperature of from 120°C to 240°C.

Claim 26 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said catalyst is present in an amount of from 5 mol. % to 100 mol. %, based on said aromatic carboxyphosphine (I).

Claim 27 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said catalyst is present in an amount of from 5 mol. % to 50 mol. %, based on said aromatic carboxyphosphine (I).

Claim 28 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said catalyst is present in an amount of from 10 mol. % to 30 mol. %, based on said aromatic carboxyphosphine (I).

Claim 29 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said catalyst is selected from the group consisting of Friedel-Crafts catalysts, Lewis-acidic ionic liquid catalysts, nucleophilic catalysts, acid chloride catalysts, acid anhydride catalysts, alkyl halide catalysts, halogen catalysts, Arbusov catalysts, catalysts possessing simultaneous Lewis-acidic and Lewis-basic properties, and transition metals exhibiting a high affinity for phosphorus.

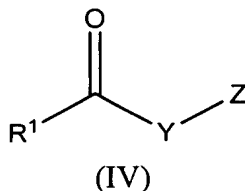
Claim 30 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said catalyst is selected from the group consisting of Lewis-acidic ionic liquid catalysts, nucleophilic catalysts, acid chloride catalysts, acid anhydride catalysts, alkyl halide catalysts, halogen catalysts, catalysts possessing simultaneous Lewis-acidic and Lewis-basic properties, and transition metals exhibiting a high affinity for phosphorus.

Claim 31 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said catalyst is selected from the group consisting of

aluminum trichloride (AlCl_3), iron(III) chloride (FeCl_3), aluminum tribromide (AlBr_3), zinc chloride (ZnCl_2), trifluoroacetic anhydride, KI, NaI, LiI, and trimethylsilyl cyanide.

Claim 32 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 29, wherein said catalyst is selected from the group consisting of aluminum trichloride (AlCl_3), trifluoroacetic anhydride, and KI.

Claim 33 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said catalyst is an acid chloride R^1COCl or an acid anhydride $(\text{R}^1\text{CO})_2\text{O}$ of an aromatic compound according to formula (IV):



wherein R^1 is a $\text{C}_6\text{-C}_{12}$ aryl group, which is optionally substituted by at least one aryl, alkyl, aryloxy, alkyloxy, and/or heteroatom.

Claim 34 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 33, wherein R^1 is selected from the group consisting of phenyl, tolyl, xylyl, α -naphthyl, β -naphthyl, 2-chlorophenyl, 3-chlorophenyl, 4-chlorophenyl, 2,6-dichlorophenyl, 2,4-dichlorophenyl, 2,4,6-trichlorophenyl, 2-methylphenyl, 3-methylphenyl, 4-methylphenyl, 2,6-dimethylphenyl, 2,4-dimethylphenyl, 2,4,6-trimethylphenyl, 2-ethylphenyl, 3-ethylphenyl, 4-ethylphenyl, 2,6-diethylphenyl, 2,4-diethylphenyl, 2-isopropylphenyl, 3-isopropylphenyl, 4-isopropylphenyl, 2-tert-butylphenyl, 3-tert-butylphenyl, 4-tert-butylphenyl, 2-methoxyphenyl, 3-methoxyphenyl, 4-methoxyphenyl, 2,6-dimethoxyphenyl, 2,4-dimethoxyphenyl, 2,6-diethoxyphenyl, 2,4-diethoxyphenyl,

methylnaphthyl, 2,6-dimethylphenyl, 2,4,6-trimethylphenyl, 2,6-dimethoxyphenyl, 2,6-dichlorophenyl, 4-bromophenyl, 2-nitrophenyl, 4-nitrophenyl, 2,4-dinitrophenyl, 2,6-dinitrophenyl, 4-dimethylaminophenyl, and 4-acetylphenyl.

Claim 35 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein a reaction time of said rearrangement reaction is from 5 minutes to 5 hours.

Claim 36 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein a reaction time of said rearrangement reaction is from 10 minutes to 3 hours.

Claim 37 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein a reaction time of said rearrangement reaction is from 15 minutes to 2 hours.

Claim 38 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said rearrangement reaction is optionally carried out in the presence of a solvent.

Claim 39 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said rearrangement reaction is carried out in the presence of a polar solvent.

Claim 40 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said rearrangement reaction is carried out at a pressure selected from sub-atmospheric pressure, atmospheric pressure, and super-atmospheric pressure.

Claim 41 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 38, wherein said rearrangement reaction is carried out at a pressure ranging from atmospheric pressure to a super-atmospheric pressure of up to 5 bar, wherein said pressure remains below the boiling point of said optional solvent.

Claim 42 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said rearrangement reaction is carried out under an inert atmosphere.

Claim 43 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said rearrangement reaction is carried out in a one-pot synthesis.

Claim 44 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said rearrangement reaction is carried out discontinuously, semi-continuously, or continuously, in two separate reactors.

Claim 45 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 12, wherein said process further comprises separating said aromatic

acylphosphine oxide (II) from said aromatic carboxyphosphine (I) by distillation, crystallization, or extraction.

Claim 46 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 45, wherein said extraction is a liquid-liquid extraction carried out with a solvent system comprising a mixture of at least two immiscible solvents of varying polarity.

Claim 47 (New) The process for preparing an aromatic acylphosphine oxide (II) according to claim 46, wherein said solvent system is selected from the group consisting of sulfolane/tetrabutylurea, sulfolane/hexane and methanol/n-heptane.